FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-5345
TOWN OF LACROSSE

The Town of Lacrosse is located in southeastern Washington, about 30 miles west of Colfax (Whitman County). The population of the town is approximately 324 residents. Growth rates for the town have declined, and are not expected to increase in the near future. The primary income for this area is from agricultural activities.

Commercial businesses include grain elevators, restaurants, repair shops, and a farm supply store. There are no significant industrial dischargers in town.

The sanitary treatment plant was constructed in 1963 and consists of a two-lagoon system. The collection system gravity flows to a central pump station which then pumps to the lagoons. The primary lagoon (Cell #1; approx. 3.7 acres) overflows to an infiltration basin (Cell #2; approx. 2.2 acres). The system underwent a minor upgrade in 1990 (Wyatt-Jakim, 1989). The improvements consisted of lining Cell #1 with 40 mil PVC and a renovation of the existing pump stations which pumps to the lagoons.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. **ST-5345** . The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Eastern Region Office of the Washington State Department of Health and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. . Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	Town of Lacrosse
Facility Name and Address	Town of Lacrosse P.O. Box 228 Lacrosse, WA 99143
Type of Treatment System:	Facultative Lagoon/Seepage Lagoon to Ground Water
Discharge Location	Latitude: 46° 49' 0" N Longitude: 117° 53' 20" W.
Legal Description of Application Area	About six acres in the S.E. ¼ of Section 3, Township 15N., Range 39 E.W.M.
Contact at Facility	Name: Don Keeney, Water & Sewer Superintendent Telephone #: (509) 549-3318
Responsible Official	Name: The Honorable Donald Dorman, Jr. Title: Mayor of Lacrosse Address: P.O. Box 228, Lacrosse, WA 99143 Telephone #: (509) 549-3318 FAX # (509) 549-3330

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

HISTORY

The Town of Lacrosse is located in southeastern Washington, about 30 miles west of Colfax (Whitman County). The population of the Town is approximately 415 residents. Growth rates for the town have remained stable, and are not expected to change in the near future. The primary income for this area is from agricultural activities.

Commercial businesses include grain elevators, restaurants, repair shops, and a farm supply store. There are no significant industrial dischargers in town.

COLLECTION SYSTEM STATUS

The sanitary treatment plant was constructed in 1963 and consists of a two-lagoon system. The collection system gravity flows to a central pump station which then pumps to the lagoons. The primary lagoon (Cell #1; approx. 3.7 acres) overflows to an infiltration basin (Cell #2; approx. 2.2 acres). The system underwent a minor upgrade in 1990 (Wyatt-Jakim, 1989). The improvements consisted of lining Cell #1 with 40 mil PVC and a renovation of the existing pump stations which pumps to the lagoons. The treatment plant is rated as a Class 1 system and is staffed by one operator. Currently, the inflow levels are near or above 85 percent of the average monthly flow design criteria, with no particular pattern being established. The Town has purchased some adjacent acreage that could be used to add an additional, lined basin.

TREATMENT PROCESSES

The two cells are operated in series with the inflow coming directly from the lift station and into lined Cell #1. The level of this cell remains constant, with the overflow going to Cell #2, an unlined lagoon. Cell #2 is measured with a staff gauge.

Flow to the basins is measured on a weekly basis and is calculated using the volume of the lift station wet well and the pump time . There is a bar screen located in the main lift station that is cleaned as necessary and the solids returned to Cell #1. Sewer maintenance is done on an as-needed basis. Stormwater runoff is not connected to the sewer system, however, there are several reported basement sump pumps and roof drains connected through service connections.

On site inspection observations showed that only a relatively small area of Cell #2, in the immediate vicinity of the discharge point from cell #1, is used for infiltration.

RESIDUAL SOLIDS

Solids are removed at the headworks via a bar screen, in addition to incidental solids (rags, scum, and other debris) as part of the routine maintenance of the equipment. Solids removed from the headworks are returned to Cell #1.

GROUND WATER

The predominent soil type in the area of the treatment facility is termed Benge Complex, as classified by the Soil Conservation Service. The gravelly layer typically found at the 30" – 60" depths can be encountered as shallow as 6 inches or as deep as 40 inches. The soil is classified as being poor material for sewage lagoons because of seepage problems. This type of soil requires at least a four foot impervious zone above it to prevent excess seepage.

There are two private wells in the immediate vicinity of the basins. The Dick Miller well is approximately 250 feet deep, and the Schweiger Bros. well is approximately 96 feet deep. In a State Waste Discharge Permit issued June 18, 1987, the town was required to monitor nitrates in the Miller well. Data results proved to be inconclusive, and monitoring was subsequently discontinued when the permit was renewed in 1994.

PERMIT STATUS

The previous permit for this facility was issued on August 15, 2000.

An application for permit renewal was submitted to the Department on November 8, 2004 and accepted by the Department on January 3, 2005.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on April 5, 2005. During this inspection, it was visually apparent that Cell #2 is continuing to allow wastewater to rapidly infiltrate into the soil and only a small portion of the Cell is being used.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) and inspections conducted by the Department. However, the facility is out of compliance in regards to Section S5.H, submittal of a Facility Plan. The Town did not secure funding to complete the Facility Plan, therefore Ecology was asked to allow them more time to complete the Facility Plan. Because the Town has since secured funding and hired an engineering firm Ecology will grant their request.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The wastewater discharge prior to infiltration is characterized for the following parameters as described in the permit application:

Table 1: Wastewater Characterization

Parameter	Concentration
BOD	15 – 61 mg/l; 32 mg/l – avg
TSS	.8 – 152 mg/l; 83 mg/l – avg
TDS	226 – 519 mg/l; 393 mg/l - avg
Ammonia-N (NH_3)	ND – 8.57 mg/l; 2.23 mg/l - avg
Fecal Coliform	80 - >1600 cfu; 1220 - avg

Dissolved Oxygen	0.3 – 15 mg/l; 11.1 mg/l - avg

Quarterly monitoring is completed by collecting samples at the outlet of Cell #1 as it flows to Cell #2. Testing results show consistently high levels of fecal coliforms. The second lagoon remains unlined, and it is likely that the wastewater has a high potential to impact groundwater. . The high fecal coliform values are a result of no disinfection.

SEPA COMPLIANCE

The plant was constructed prior to any SEPA regulations.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State.

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). AKART is generally defined in an approved Facility Plan. There is no approved Facility Plan for this facility.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L

PH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

There is no information available on the ground water in the vicinity of the unlined infiltration lagoon (Cell #2). Therefore, a determination of whether or not the lagoon is impacting ground water can not be made. However, visual observations at the site and some knowledge of the soils strongly suggest a high potential of groundwater impact from Cell #2.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED AUGUST 15, 2000

Table 3: Comparison of Previous and New Limits

Parameter	Existing Limits	Proposed Limits
Peak Flow (dry weather)	81,000	81,000
Peak Flow (wet weather)	98,000	98,000

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge has a potential to pollute the ground water. Therefore the Permittee is required to evaluate the impacts on ground water quality. This evaluation will be part of the Facility Plan, which is one of the requirements of the new permit.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

FACILITY LOADING

The design criteria for this treatment facility are taken from a 1989 engineering report prepared by Wyatt-Jakim Engineers and are as follows:

Monthly average dry weather flow:	65,000 gpd
Monthly average wet weather flow:	74,000 gpd
Peak dry weather flow:	81,000 gpd
Peak wet weather flow:	98,000 gpd
BOD influent loading:	27 lbs/acre/day
TSS influent loading:	23 lbs/acre/day

The permit requires the Permittee to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittee is required to submit an engineering report when the plant reaches 85% of its flow or loading capacity. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5])

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittee is required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503. The disposal of other solid waste is under the jurisdiction of the local health district.

Requirements for monitoring sewage sludge and recordkeeping are included in this permit. This information will by used by Ecology to develop or update local limits and is also required under 40 CFR 503.

Currently, solids collected that are collected at the headworks are returned to Cell #1. This practice should be discontinued and the solids should be disposed of in an approved waste container or landfill. sludge depth

There is no information on the accumulation of sludge in Cell #1. The permit will require a one time sampling for sludge depth and the values will be submitted to the Department with the next application for permit renewal. A sufficient number of measurements shall be taken at the time of sampling to provide a data that is representative of the sludge depth over the lagoon area.

FACILITY PLAN

In 1989, an engineering report was done by Wyatt-Jakim Engineers to evaluate the following conditions: the amounts and locations of infiltration and inflow into the sanitary sewer collection system, the condition of the existing collection system, in particular the conditions of the pump stations, and the existing treatment facility. The purpose of this report was to develop and

evaluate alternate approaches for updating the treatment facility and to identify the best approach for correction of any problems, based on environmental impact, cost, and operational considerations. At the time this report was written, it was determined that the system did not experience excessive infiltration or inflow, and was not causing any flow problems at the treatment plant.

The recommendations from the engineering report were a combined project of upgrading the pumping facilities, and the lining of Cell #1 at the treatment plant.

No facility plan is on record at the Department of Ecology that describes whether or not the facultative lagoon/infiltration basin system meets the AKART requirement as required by state law for all dischargers in RCW 90.48. The 1989 engineering report addressed only operational aspects of the facility and did not determine whether or not the facility is providing AKART. In addition, the facility inspection identified a high potential for impact to the ground water from the rapid infiltration of non-disinfected wastewater from Cell #2 and noted the periodic high inflows to the treatment facility that occasionally exceed 85% of the design flow for the system. The ground water must be protected as per WAC 173-200 requirements, and Department of Health requirements. The 85% design flow exceedance threshold is a guideline established by the Department that municipalities should use as a tool to address maintaining adequate capacity for the facility and future planning for expansion, if necessary.

Therefore, the Department will require the town to complete and submit a new Facility Plan that meets the requirements of WAC 173-240.The plan shall include the requirements of 173-240-060 (4)(a) and (b)(i), (ii), and (iii) for the protection of ground water for projects utilizing land application, including seepage lagoons. If land treatment is considered, it must comply with Department of Health criteria. All land treatment and disposal options must also meet the requirements contained in Ecology's *"Implementation Guidance for the Ground Water Quality Standards"* (Ecology, 1996)

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 180 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Wyatt-Jakim, 1989. Engineering Report, Wastewater Collection and Treatment for Town of Lacrosse, Wyatt-Jakim Engineers, March, 1989.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on January 6 and January 13, 2005 in the Whitman County Gazette to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

This permit was written by Wayne Peterson.

APPENDIX B--GLOSSARY

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out

light and can promote and maintain the development of noxious conditions through oxygen depletion.

APPENDIX C--SITE MAP

APPENDIX D--RESPONSE TO COMMENTS

APPENDIX E—DISCHARGE MONITORING SUMMARY (7/94 – 3/00)